

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An apparatus for efficiently processing an Internet Protocol (IP) packet incoming to a mobile station, comprising:

a receiver, at a mobile station tethered to a terminal equipment and operable to provide the terminal equipment with access to a wireless network, for receiving [[the]] an IP packet having a TCP/IP header, wherein the TCP/IP header comprises a Van Jacobson (VJ) compressed header comprising a connection identification corresponding to one of the terminal equipment, or the mobile station, or a site associated with a PDSN in communication with the mobile station via the wireless network;

a storage, communicatively associated with said receiver, for storing a list, wherein the list comprises ~~a Van Jacobson (VJ)~~ at least one VJ connection identification, wherein the at least one VJ connection identification identifies at least one of ~~an active originator~~ a first source having an active TCP/IP session with an active application on the mobile station, or a first ~~or an~~ active destination corresponding to the active application on the mobile station, or both a second source or a second destination both not corresponding to the active application on the mobile station; and

a comparator for comparing [[a]] the connection identification of the IP packet with the at least one VJ connection identification in the list and forwarding the IP packet, without decompressing the IP packet, to [[an]] the intended destination ~~depending on the comparison if the comparing determines that the connection identification does not correspond to the active application on the mobile station,~~ and forwarding the IP packet, with decompressing the IP packet, to the intended destination if the comparing determines that the connection identification corresponds to the active application on the mobile station.

2. (Currently Amended) The apparatus of claim 1, wherein said comparator forwards the IP packet, without decompressing the IP packet, if the connection identification of the IP packet matches the at least one VJ connection identification in the list identifying either of the second source or the second destination.

3. (Canceled)

4. (Currently Amended) The apparatus of claim 1, wherein the at least one VJ connection information stored in the list indicates an active destination at the mobile station.

5. (Currently Amended) The apparatus of claim 1, wherein the at least one VJ connection information stored in the list indicates an active destination at [[a]] the terminal equipment associated with the mobile station.

6. - 8. (Canceled)

9. (Currently Amended) The apparatus of claim 1, wherein the at least one VJ connection information stored in the list indicates an active originator of a communication between the mobile station and remote equipment corresponding to the site associated with the PDSN.

10. - 14. (Canceled)

15. (Currently Amended) A filter for efficiently processing data packet incoming to a mobile station, comprising:

a receiver for receiving IP data packets and Van Jacobson (VJ) uncompressed data packets; and

a delineator for identifying the IP data packets from the VJ uncompressed data packets, wherein said delineator ~~seeks~~ identifies a connection identification in at least one of the VJ uncompressed packets as destined for the mobile station, and wherein said delineator forwards the connection identification to a connection identification list for use by the delineator in subsequently assessing a destination of VJ compressed packets associated with the at least one of VJ uncompressed packets.

16. (Currently Amended) The filter of claim 15, wherein, upon ~~delineation~~ identification by said delineator of an IP packet destined for the mobile station, said delineator seeks a received connection identification in a subsequent one of the VJ uncompressed packets ~~upon delineation of one of the IP packets if the one of the IP packets is delineated as destined for the mobile station.~~

17. (Original) The filter of claim 15, further comprising a tether to at least one terminal equipment communicatively associated with said delineator.

18. (Currently Amended) The filter of claim 17, wherein for ones of the VJ uncompressed packets not ~~delineated~~ identified as destined for the mobile station, the delineator forwards the ones to ~~are destined for~~ the terminal equipment.

19. (Currently Amended) The filter of claim 18, wherein the delineator forwards ones ~~of the IP packets are delineated, and wherein~~ ones of the IP packets not ~~delineated~~ identified as destined for the mobile station ~~are destined for~~ to the terminal equipment.

20. (Original) The filter of claim 15, further comprising a snooper, wherein the connection identification list is maintained at said snooper.

21. (Currently Amended) The filter of claim 20, wherein at least one subsequent VJ compressed ~~packets~~ packet corresponding to a one of the VJ uncompressed packets having ~~[[a]]~~ the connection identification on the connection identification list is uncompressed at the mobile station by said snooper.

22. (Currently Amended) A method for efficiently processing a Van Jacobson (VJ) compressed data packet incoming to a mobile station, comprising:

receiving, at a mobile station tethered to a terminal equipment and operable to provide the terminal equipment with access to a wireless network, an IP packet having a TCP/IP header, wherein the TCP/IP header comprises a VJ compressed header comprising a connection identification corresponding to one of the terminal equipment, or the mobile station, or a site associated with a PDSN in communication with the mobile station via the wireless network, wherein the IP packet defines a the VJ compressed data packet;

storing a list, wherein the list comprises at least one VJ connection identification of an active application in progress, wherein the at least one VJ connection identification identifies at least one of an active originator a first source having an active TCP/IP session with an active application on the mobile station, or a first or an active destination corresponding to the active application on the mobile station, or a second source or a second destination both not corresponding to the active application on the mobile station; and

comparing ~~[[a]]~~ the connection identification of the IP packet with the at least one VJ connection identification in the list and forwarding the IP packet, without decompressing the IP packet, to ~~[[an]]~~ the intended destination depending on the comparison if the comparing determines that the connection identification does not correspond to the active application on the mobile station, and forwarding the IP packet, with decompressing the IP packet, to the intended

destination if the comparing determines that the connection identification corresponds to the active application on the mobile station.

23. (Previously Presented) The method of claim 22, further comprising:

alternatively uncompressing the VJ compressed data packet locally to the received connection identifier.

24. (Previously Presented) The method of claim 23, wherein said uncompressing is local at the mobile station.

25. (Currently Amended) The method of claim 22, wherein the list comprises the at least one VJ connection identification of an active destination.

26. (Currently Amended) The method of claim 22, wherein the list comprises the at least one VJ connection identification of an active originator.

27. (Currently Amended) The method of claim 22, wherein said uncompressing is local at [[a]] the terminal equipment associated with the mobile station.

28. (Currently Amended) A method for efficiently filtering at least one packet incoming to a mobile station, comprising:

receiving IP data packets and ~~ones and~~ VJ uncompressed ~~ones~~ data packets ~~of the at least one packet;~~

~~delineating~~ identifying the IP data packets ~~ones~~ from the VJ uncompressed data ~~ones of the IP~~ packets;

~~seeking~~ identifying a connection identification as destined for the mobile station in a one of the VJ uncompressed packets upon said ~~delineating~~ identifying of the one of the VJ uncompressed packets ~~as destined for the mobile station~~;

forwarding the connection identification to a connection identification list for use by the delineator in subsequently assessing a destination of VJ compressed packets associated with the one of the VJ uncompressed packets.

29. (Original) The method of claim 28, further comprising subsequently assessing a destination of at least one VJ compressed packet associated with the one of the VJ uncompressed packets in accordance with the connection identification list.

30. (Currently Amended) The method of claim 29, further comprising seeking a received connection identification in a subsequent one of the VJ uncompressed packets upon ~~said delineating of the~~ identifying a one of the IP packets as destined for the mobile station.

31. (Currently Amended) The method of claim 28, further comprising tethering at least one terminal equipment ~~to~~ associated with said delineating to the mobile station.

32. (Currently Amended) The method of claim 31, further comprising forwarding ones of the VJ uncompressed packets not ~~delineated by said delineating~~ identified as destined for the mobile station to the terminal equipment.

33. (Currently Amended) A system for efficiently processing a packet incoming to a mobile station operable for communication with a PDSN, comprising:

a filter resident on said mobile station that differentiates an IP packet ~~from~~ and a TCP/IP packet having a VJ ~~uncompressed packet~~ compressed header and a VJ connection identification, wherein the IP packet and the TCP/IP packet are received from the PDSN;

~~a PDSN in communication with said mobile station;~~

~~a terminal equipment communicatively tethered to said mobile station;~~

a snooper on said mobile station, wherein said snooper ~~receives a~~ is operable to receive the TCP/IP packet having the VJ compressed ~~packet~~ header from the filter said PDSN ~~and said terminal equipment~~, wherein the VJ ~~compressed packet~~ connection identification is compared by said snooper to a list that includes a first connection identification ~~of an active originator and an active destination for the VJ compressed packet, wherein the active destination is resident at terminal equipment or a site associated with the PDSN~~ corresponding to an active application on the mobile station, and a second connection identification corresponding to an active application on a terminal equipment tethered to the mobile station such that the mobile station is operable to provide the terminal equipment with access to a wireless network, wherein the snooper is operable to decompress the VJ compressed header to define a VJ uncompressed header and forward the TCP/IP packet with the VJ uncompressed header to the mobile station if the VJ connection identification matches the first connection identification, wherein the snooper is operable to forward the TCP/IP packet with the VJ compressed header to the terminal equipment, without decompression, if the VJ connection identification matches the second connection identification; and

a connection corresponding to the active application on the mobile station and local to said mobile station for receiving the ~~VJ compressed~~ TCP/IP packet having the VJ uncompressed header if the VJ connection identifier ~~that identification~~ matches the first connection identifier identification in the list.

34. (Currently Amended) A snooper for efficiently processing at least one Internet Protocol (IP) packet incoming to a mobile station, comprising:

a storage element for storing a list of Van Jacobson (VJ) connection identifications (CID), each VJ CID associated with an active application running on the mobile station or associated

with a terminal equipment tethered to the mobile station such that the mobile station is operable to provide the terminal equipment with access to a wireless network; and

a processing element configured to differentiate between a packet with a VJ CID and a packet without a VJ CID, and if the packet has a VJ CID, to compare the VJ CID against the list of VJ CIDs in the list, to decompress a compressed VJ header and forward the packet with the decompressed VJ header to the active application running on the mobile station if the VJ CID of the packet matches the VJ CID associated with the active application running on the mobile station, and to forward the packet with the compressed VJ header to the terminal equipment if the VJ CID of the packet matches the VJ CID associated with the terminal equipment.

35. – 36. (Canceled)

37. (Currently Amended) A method for assessing the destination of an Internet Protocol (IP) packet that has arrived at a mobile station (MS) ~~without uncompressing a compressed header of the IP packet, wherein the MS acts as a gateway for applications running on either the MS or a terminal equipment (TE) tethered to the MS,~~ the method comprising:

maintaining a connection identification (CID) list at the MS, wherein the CID list comprises CIDs corresponding to at least one of an active MS application or an active terminal equipment (TE) application on a TE tethered to the MS, wherein the MS acts as a gateway to a wireless network for applications running on either the MS or the TE;

determining whether the IP packet has a TCP/IP packet header;

determining whether the TCP/IP packet header is Van Jacobson (VJ) compressed or VJ uncompressed;

if the TCP/IP packet header is VJ uncompressed, then assessing a destination from the TCP/IP header as either the MS or the TE, forwarding the IP packet to the assessed one of the MS or the TE, and adding a connection identification (CID) of the IP packet to an application the CID list;

if the TCP/IP packet header is VJ compressed, then comparing the CID of the IP packet to each CID on the ~~application~~ CID list;

if the CID of the IP packet is on the ~~application~~ CID list and corresponds to the active MS application, then uncompressing the VJ compressed header and passing the IP packet to the MS ~~without uncompressing~~ with the uncompressed VJ compressed header; and

if the CID of the IP packet is not on the ~~application~~ CID list or corresponds to the active TE application, then forwarding the IP packet to the TE without uncompressing the VJ compressed header.

38. (Canceled)

39. (Currently Amended) Apparatus for assessing the destination of an Internet Protocol (IP) packet that has arrived at a mobile station (MS) without uncompressing a compressed header of the IP packet, wherein the MS acts as a gateway for applications running on either the MS or a terminal equipment (TE) tethered to the MS, the apparatus comprising:

means for maintaining a connection identification (CID) list at the MS, wherein the CID list comprises CIDs corresponding to at least one of an active MS application or an active terminal equipment (TE) application on a TE tethered to the MS, wherein the MS acts as a gateway to a wireless network for applications running on either the MS or the TE;

means for determining whether the IP packet has a TCP/IP packet header and for determining whether the TCP/IP packet header is Van Jacobson (VJ) compressed or VJ uncompressed;

means for assessing a destination from the TCP/IP header as either the MS or the TE, forwarding the IP packet to the assessed one of the MS or the TE, and adding a connection identification (CID) of the IP packet to an application the CID list if the TCP/IP packet header is VJ uncompressed;

means for comparing the CID of the IP packet to each CID on the ~~application~~ CID list if the TCP/ID packet header is VJ compressed; and

means for uncompressing the VJ compressed header and passing the IP packet to the MS ~~without uncompressing~~ with the uncompressed VJ compressed header if the CID of the IP packet is on the ~~application~~ CID list and corresponds to the active MS application, and for passing the IP

packet to the TE without uncompressing the VJ compressed header if the CID of the IP packet is not on the ~~application~~ CID list or corresponds to the active TE application.

40. (New) The apparatus of claim 1, wherein an IP address of the mobile station comprises a destination address for both the mobile station and the terminal equipment.

41. (New) The filter of claim 15, wherein an IP address of the mobile station comprises a destination address for both the mobile station and the terminal equipment.

42. (New) The method of claim 22, wherein an IP address of the mobile station comprises a destination address for both the mobile station and the terminal equipment.

43. (New) The method of claim 28, wherein an IP address of the mobile station comprises a destination address for both the mobile station and the terminal equipment.

44. (New) The system of claim 33, wherein an IP address of the mobile station comprises a destination address for both the mobile station and the terminal equipment.

45. (New) The snooper of claim 34, wherein an IP address of the mobile station comprises a destination address for both the mobile station and the terminal equipment.

46. (New) The method of claim 37, wherein an IP address of the mobile station comprises a destination address for both the mobile station and the terminal equipment.

47. (New) The apparatus of claim 39, wherein an IP address of the mobile station comprises a destination address for both the mobile station and the terminal equipment.

48. (New) A software module embodied in a storage medium for efficiently processing a Van Jacobson (VJ) compressed data packet incoming to a mobile station, comprising:

a first module operable to cause a mobile station to receive an IP packet having a TCP/IP header, wherein the TCP/IP header comprises a VJ compressed header comprising a connection identification corresponding to one of the terminal equipment, or the mobile station, or a site associated with a PDSN in communication with the mobile station via the wireless network, wherein the IP packet defines a VJ compressed data packet, wherein the mobile station is tethered to a terminal equipment and operable to provide the terminal equipment with access to a wireless network;

a second module operable to cause the mobile station to store a list, wherein the list comprises at least one VJ connection identification, wherein the at least one VJ connection identification identifies at least one of a first source having an active TCP/IP session with an active application on the mobile station, or a first destination corresponding to the active application on the mobile station, or a second source or a second destination both not corresponding to the active application on the mobile station; and

a third module operable to cause the mobile station to compare the connection identification of the IP packet with the at least one VJ connection identification in the list and forwarding the IP packet, without decompressing the IP packet, to the intended destination if the comparing determines that the connection identification does not correspond to the active application on the mobile station, and forwarding the IP packet, with decompressing the IP packet, to the intended destination if the comparing determines that the connection identification corresponds to the active application on the mobile station.

49. (New) A software module embodied in a storage medium for efficiently filtering at least one packet incoming to a mobile station, comprising:

a first module operable to cause a mobile station to receive IP data packets and VJ uncompressed data packets;

a second module operable to cause the mobile station to identify the IP data packets from the VJ uncompressed data packets;

a third module operable to cause the mobile station to identify a connection identification as destined for the mobile station in a one of the VJ uncompressed packets upon said identifying of the one of the VJ uncompressed packets;

a fourth module operable to cause the mobile station to forward the connection identification to a connection identification list for use by the delineator in subsequently assessing a destination of VJ compressed packets associated with the one of the VJ uncompressed packets.

50. (New) A software module embodied in a storage medium for assessing the destination of an Internet Protocol (IP) packet that has arrived at a mobile station (MS), the method comprising:

a first module operable to cause a MS to maintain a connection identification (CID) list at the MS, wherein the CID list comprises CIDs corresponding to at least one of an active MS application or an active terminal equipment (TE) application on a TE tethered to the MS, wherein the MS acts as a gateway to a wireless network for applications running on either the MS or the TE;

a second module operable to cause the MS to determine whether the IP packet has a TCP/IP packet header;

a third module operable to cause the MS to determine whether the TCP/IP packet header is Van Jacobson (VJ) compressed or VJ uncompressed;

a fourth module operable, if the TCP/IP packet header is VJ uncompressed, to cause the MS to assess a destination from the TCP/IP header as either the MS or the TE, forwarding the IP packet to the assessed one of the MS or the TE, and adding a connection identification (CID) of the IP packet to the CID list;

a fourth module operable, if the TCP/IP packet header is VJ compressed, to cause the MS to compare the CID of the IP packet to each CID on the CID list and to:

uncompress the VJ compressed header and pass the IP packet to the MS with the uncompressed VJ compressed header, if the CID of the IP packet is on the CID list and corresponds to the active MS application; and

forward the IP packet to the TE without uncompressing the VJ compressed header, if the CID of the IP packet is not on the CID list or corresponds to the active TE application.